IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION

BUZZIE SMITH, individually and on behalf of the Heirs and Estate of Charles A. Smith, Deceased, Plaintiff, v. TERUMO CARDIOVASCULAR SYSTEMS CORPORATION; IHC HEALTH SERVICES, INC.; INTERMOUNTAIN MEDICAL CENTER; INTERMOUNTAIN HEALTH CARE, INC., Defendants.	**MEMORANDUM DECISION AND ORDER GRANTING [157] MOTION TO LIMIT TESTIMONY OF JOHN HEIDINGSFELDER, M.D.** Case No. 2:12-cv-00998-DN District Judge David Nuffer

The decedent Charles A. Smith (Mr. Smith), represented in this litigation by Buzzie Smith (Mrs. Smith), underwent surgery on his heart in September 2010. There were complications during the surgery. Eleven months later, Mr. Smith passed away. Mrs. Smith brings this action against the hospital and the manufacturer of a device used during the surgery (collectively "Defendants").[1] Mrs. Smith offers Dr. John Heidingsfelder's expert opinion to help establish various aspects of her case. Defendants move (Motion) to limit parts of Dr.

[1] Amended Complaint, docket no. 17, filed October 7, 2013.

Heidingsfelder's expert opinion.[2] Mrs. Smith opposes (Opposition) the Motion.[3] Defendants reply in support of the Motion.[4]

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BACKGROUND FACTS

Defendants provide the background facts to the Motion in the manner of a fact section for a motion for summary judgment under DUCivR 56-1(b).[5] Mrs. Smith responds accordingly.[6] The facts will be reconciled as they would for a motion for summary judgment. For simplicity, the facts below will be drawn from the briefing instead of the supporting exhibits. If Mrs. Smith or the Defendants did not dispute the fact, the footnote citation will only be to the Motion or Opposition. If there is an alleged dispute, it will either be resolved or the fact will be omitted. The facts below do not represent a finding of undisputed facts for purposes of the pending motions for summary judgment. The following facts only relate to this motion.

[2] Intermountain Medical Center's Motion to Limit Testimony of John Heidingsfelder, M.D. (Motion), docket no. 157, filed May 12, 2017; Notice of Joinder to Intermountain Medical Center's Motion to Limit Testimony of John Heidingsfelder, M.D., docket no. 160, filed May 15, 2017.

[3] Plaintiff's Opposition to Intermountain Medical Center's Motion to Limit Testimony of John Heidingsfelder, M.D. (Opposition), docket no. 170, filed June 2, 2017.

[4] Intermountain Medical Center's Reply Memorandum in Support of Its Motion to Limit Testimony of John Heidingsfelder, M.D., docket no. 194, filed June 20, 2017.

[5] Motion at 2–7.

[6] Opposition at 4–8.

1. Mr. Smith underwent an aortic valve replacement surgery on September 13, 2010, at Intermountain Medical Center to Address severe aortic stenosis. The surgery was performed by Kent Jones, M.D. (Dr. Jones) and required that Mr. Smith be placed on heart bypass.[7]

2. However, when Dr. Jones directed the perfusionist to initiate bypass and the perfusionist attempted to do so, the bypass machine failed to provide the forward flow of blood necessary for effective cardiopulmonary bypass.

3. Although flow was later established, as a result of the initial problems, there was a lack of forward flow from the bypass machine for approximately 10 or 11 minutes out of 173 minutes of bypass during the five hour and thirty-five minute surgery. For part of the 11 or so minutes that the bypass machine failed to provide forward blood flow, Dr. Jones squeezed Mr. Smith's heart to "create any blood flow." While he was massaging the heart, the anesthesiologist was giving crystalloid infusion, just to keep something circulating through Mr. Smith's body, but crystalloid does not have the ability to carry oxygen. Mr. Smith's heart had been drained of blood by that time, and for some of that time, Mr. Smith had no blood pressure; for other readings the systolic pressure was less than 20 millimeters of mercury, which is "very low blood pressure." It took about 9 minutes before Dr. Jones could get any meaningful blood pressure. Dr. Jones could not say how effective squeezing the heart was, but it was "the only option you have."[8]

4. Following the surgery, Mr. Smith underwent cardiac rehabilitation, and was discharged from Intermountain Medical Center on December 10, 2010. Mr. Smith should have improved after the surgery because he no longer had aortic valve stenosis. But he did not. After

[7] Motion ¶ 1 at 2 (undisputed).

[8] Motion ¶ 3 at 2; Opposition at 4–5; Reply at 2–3.

"a prolonged hospitalization" in Utah, Mr. Smith was transferred to a rehabilitation facility in Missouri.[9]

5. Mrs. Smith alleges that the failure of flow during the surgery injured Mr. Smith's heart and brain and about 11 months after the valve replacement surgery, on August 6, 2011, caused a heart attach which resulted in Mr. Smith's death.[10]

6. Mrs. Smith seeks damages arising from Mr. Smith's death and damages for the harms and losses Mr. Smith suffered before his death as a result of the incident.[11]

7. Following Mr. Smith's death, Mrs. Smith retained forensic pathologist John Heidingsfelder, M.D. to perform an autopsy on Mr. Smith.[12]

8. Dr. Heidingsfelder performed the autopsy, consulted with pathologists specializing in cardiac pathology and neurologic pathology, and produced an autopsy report.[13]

9. In determining the cause of death, Dr. Heidingsfelder relied on his medical knowledge, his knowledge of forensic pathology, and his knowledge of what to look for in natural disease deaths and other deaths.[14]

10. Doctors reasonably rely on prior medical records to inform themselves about a patient's prior condition.[15]

11. Dr. Raed Al-Dallow, Mr. Smith's treating interventional cardiologist in Illinois, testified:

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[9] Motion ¶ 4 at 2; Opposition at 5; Reply at 3.

[10] Motion ¶ 5 at 2–3.

[11] Motion ¶ 6 at 3; Opposition at 5; Reply at 3–4.

[12] Motion ¶ 7 at 3 (undisputed).

[13] *Id.* ¶ 8 (undisputed).

[14] Opposition ¶ 1 at 8 (undisputed). In the Reply, Defendants do not dispute the fact. Instead they make arguments.

[15] Opposition ¶ 2 at 8 (undisputed).

> In our area of experience as cardiologists treating those patients, there are certain factors that we consider when we care postoperatively. One of them is the length or the duration of surgery, and the tear had to be repaired, so this may have added time to the length of the surgical procedure, although this time is not stated.[16]

12. During the surgery, Mr. Smith went some 10 minutes with no or very low blood pressure. A period of very low blood pressure can lead to a reduction in the function of the heart.[17]

13. That damage can lead to further damage to the tissue of the heart itself over the next weeks and months.[18]

14. That initial event can set in motion a biochemical process called cardiomyopathy that can be progressive.[19]

15. When cardiomyopathy is severe, it can impair the patient's function and longevity.[20]

16. Dr. Al-Dallow testified that if Mr. Smith had blood pressure of less than 20 mmHg for 9 minutes, then that could be why his cardiomyopathy worsened after his surgery.[21]

17. Dr. Al-Dallow also testified that there may be other causes for why Mr. Smith's cardiomyopathy worsened.[22]

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[16] Video Deposition of Raed Al-Dallow, M.D. (Dr. Al-Dallow Depo.) at 27:14–21, docket no. 185-2, filed June 14, 2017.

[17] Opposition ¶ 4 at 9 (undisputed).

[18] *Id.* ¶ 5 at 9 (undisputed).

[19] *Id.* ¶ 6 at 9 (undisputed).

[20] *Id.* ¶ 8 at 9 (undisputed).

[21] *Id.* ¶ 7 at 9 (undisputed).

[22] Dr. Al-Dallow Depo. at 101:18–102:4.

18. Mr. Smith's left ventricle dysfunction could have been exacerbated or worsened by a period of very low blood pressure, such as occurred in Mr. Smith's September 2010 surgery.[23]

19. Dr. Jones, the surgeon, noted that he had a difficult time weaning Mr. Smith from cardiopulmonary bypass "due to severe left ventricular dysfunction, presumably from lack of any coronary blood flow during the time of his hypotension."[24]

20. Dr. Jones also stated that in an echocardiogram performed after the surgery "[it] documented improvement in his left ventricular function, the ejection fraction now being 35—40%."[25]

21. A period of very low blood pressure can also lead to a problem with cerebral functioning.[26]

22. Dr. Jones was "very concerned with [Mr. Smith's] cerebral function given the long period of absent blood pressure" and planned to treat him with hypothermia for 24 hours "in hopes of improving his brain function."[27] Dr. Jones later reported: "Surprisingly, Mr. Smith awakened and showed no evidence of neurologic impairment."[28]

23. Dr. Al-Dallow stated that "[t]he cardiomyopathy process includes the enlargement of the heart, the hypokineses, the ejection fraction and the decreased systolic function. These are different aspects of the same process."[29]

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[23] Opposition ¶ 9 at 10 (undisputed).

[24] *Id.* ¶ 10 at 10 (undisputed).

[25] Discharge Summary at 3, docket no. 185-10, filed June 14, 2017.

[26] Opposition ¶ 11 at 10 (undisputed).

[27] *Id.* ¶ 12 at 10 (undisputed).

[28] Discharge Summary at 3.

[29] Dr. Al-Dallow Depo. at 52:4–8.

24. When a person's heart is deprived of a sufficient flow of properly oxygenated blood for 9 minutes it can make a person more susceptible to an event that would terminate his life through the malfunctioning of the heart.[30]

25. Mr. Smith's left ventricle was mildly enlarged in December 2008.[31]

26. The autopsy of Mr. Smith's heart showed that it weighed 880 grams, which the cardiopathologist characterized as severe cardiomegaly.[32]

27. The heart size for a normal, healthy individual is between 350 and 425 grams. Mr. Smith's heart was over twice the normal size.[33]

28. The Surgical Pathology Report states that "[a]ll four chambers also show mild dilatation."[34]

29. The left ventricle is the chamber that pumps blood through the aorta to the rest of the body. The left ventricle ejection fraction is a measure of how well the left ventricle is functioning. For a normal, healthy 70-year-old, a normal ejection fraction is in the range of 55–65%. From 2003 through 2005, Mr. Smith's left ventricle ejection fraction was 44–45%. In December 2008 his ejection fraction was 35%. Just before his September 2010 valve-replacement surgery, his ejection fraction was 30–35%, a moderate impairment. Instead of getting better or staying about the same after Mr. Smith's narrowed aortic valve was replaced, some four and a half months after the surgery his ejection fraction was down to 20%, a severe impairment.[35]

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[30] Opposition ¶ 13 at 10 (undisputed).

[31] *Id.* ¶ 16 at 11 (undisputed).

[32] *Id.* ¶ 17 at 11 (undisputed).

[33] *Id.* ¶ 18 at 11 (undisputed).

[34] Surgical pathology Report at 2, docket no. 185-11, filed June 14, 2017.

[35] Opposition ¶ 19 at 11 (undisputed).

30. Dr. Heidingsfelder's autopsy report included the report of a cardiac pathologist that stated that Mr. Smith's heart showed severe cardiomegaly (enlargement of the heart) and also a 60% to 70% narrowing of the right coronary artery by "calcific atherosclerosis," or ''plaque," and 30% to 40% narrowing of the other three coronary arteries. ("Calcific atherosclerosis" is also referred to as "coronary artery disease" or in lay terms, "hardening of the arteries.")[36]

31. In his report Dr. Heidingsfelder states:

> It is my opinion that the cause of death is fatal ventricular arrhythmia due to clinical acute myocardial infarct due to atherosclerotic cardiovascular disease. The manner of death is natural disease. Other significant conditions which may have contributed to the cause of death include aortic valve stenosis, aortic porcine valve replacement procedure, cardiomegaly with four chamber dilation and hypertrophy, COPD, and encephalopathy.[37]

32. Dr. Heidingsfelder implied in his report that stress to Mr. Smith resulting from the events of the September 2010 surgery contributed to accelerated formation of coronary artery plaque ("atherogenesis") in Mr. Smith and thereby caused the myocardial infarction which was the immediate cause of Mr. Smith's death.[38]

33. Dr. Heidingsfelder also implied in his report that the events of the September 2010 surgery caused increased enlargement to Mr. Smith's heart.[39]

34. In his deposition, Dr. Heidingsfelder answered the question of what he felt was the cause of Mr. Smith's death: "My opinion as to the cause of his death was that of a fatal

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[36] Motion ¶ 9 at 3 (undisputed).

[37] Autopsy Report, docket no. 185-7, filed June 14, 2017.

[38] Motion ¶ 11 at 4 (undisputed).

[39] *Id*. ¶ 12 at 4 (undisputed).

ventricular arrythmia [sic] due to an acute myocardial infarct due to atherosclerotic cardiovascular disease."[40]

35. Dr. Heidingsfelder asserted in deposition that chronic stress from worsened health conditions resulting from the surgery in September 2010 caused accelerated formation of plaque in Mr. Smith's coronary arteries.[41]

36. Dr. Heidingsfelder relied on medical records reporting that Mr. Smith had no significant coronary artery disease ("narrowing") before the surgery; however, narrowing ("stenosis") of coronary arteries is not considered a "significant" finding until it reaches 70%.[42]

37. Mrs. Smith's expert cardiologist also stated that given Mr. Smith's prior history of atherosclerosis and the prior imaging studies, the findings upon autopsy were ''not surprising" and were consistent with this history.[43]

38. In his deposition, Dr. Heidingsfelder also suggested that the events of the surgery contributed to the severe degree of cardiomegaly found on autopsy.[44]

39. Again, Dr. Heidingsfelder based his opinion that the events of the surgery caused a substantial increase in cardiomegaly on the difference between prior medical records referring to heart size and the findings on autopsy.[45]

40. Dr. Heidingsfelder is trained in internal medicine and forensic pathology. He specializes in performing autopsies.[46]

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[40] Video Deposition of John Heidingsfelder, MD (Dr. Heidingsfelder Depo.) at 21:9–12, docket no. 185-4, filed June 14, 2017.

[41] Motion ¶ 14 at 4 (undisputed).

[42] *Id.* ¶ 17 at 6 (undisputed).

[43] *Id.* ¶ 18 at 6 (undisputed).

[44] *Id.* ¶ 19 at 6 (undisputed).

[45] *Id.* ¶ 20 at 6 (undisputed).

[46] *Id.* ¶ 22 at 6 (undisputed).

41. Dr. Heidingsfelder is not trained as a cardiologist, does not treat patients for atherosclerosis, and has not done any research on the rate of plaque formation. He acknowledged that an interventional cardiologist or a cardiac electrophysiologist with experience in that area would be in a better position than he to opine on the rate of plaque formation.[47]

42. Dr. Heidingsfelder could not identify any medical literature regarding the rate of plaque formation in general or that the rate of formation is affected by stress.[48]

43. Dr. Heidingsfelder was asked this question: can you "offer us an opinion whether or not [Mr. Smith] would have had the same plaque formation between the time of his surgery and the time of his death simply from those preexisting conditions as opposed to with the complications of the surgery"?[49] Dr. Heidingsfelder responded:

> I was very much surprised that he went from having basically open coronary arteries to less than a year later having severe blockages of his coronary arteries. And I was very much surprised given that they did accomplish the surgery of his porcine aortic valve that the heart, instead of getting better or at least stabilizing its condition at the time of the surgery, his heart became much worse. So those two things very much were surprising to me and unexpected with or without his comorbidities of his COPD.[50]

44. Dr. Heidingsfelder acknowledged that if stress affected the plaque formation in Mr. Smith, the stress resulting from Mr. Smith's severe chronic obstructive pulmonary disease and other pre-existing health problems would also contribute to plaque formation, but he could identify no basis for distinguishing the relative contribution from the pre-existing conditions from stress arising from the surgery.[51]

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[47] *Id.* ¶ 22 at 6–7; Opposition at 7. Adding the caveat emphasized in the Opposition reconciles any differences.

[48] Motion ¶ 23 at 7 (undisputed).

[49] Dr. Heidingsfelder Depo. at 62:15–20.

[50] *Id.* at 62:21–63:8.

[51] Motion ¶ 23 at 7. This is not completely addressed in the Opposition. This is an accurate summary of Dr. Heidingsfelder deposition testimony. Dr. Heidingsfelder Depo. at 61:5–15.

45. Dr. Heidingsfelder has not studied the rate of progression of cardiomegaly and does not know whether the rate may accelerate over time and cannot opine on the rate of progression of cardiomegaly.[52]

DISCUSSION

Defendants argue that Dr. Heidingsfelder's opinion regarding the formation of plaque or progression of cardiomegaly should be excluded for three reasons: (1) he is not qualified to offer opinions on those subjects;[53] (2) his opinion about plaque formation is unreliable;[54] and (3) his opinion about the progression of cardiomegaly is unreliable.[55]

Federal Rule of Evidence 702 addresses the standard for the admissibility of expert testimony.

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.[56]

"Under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."[57] The inquiry of scientific reliability is flexible and focuses on principles and methodology.[58] The Supreme Court has offered several non-exhaustive factors that a court may rely on for determining reliability such as, whether the

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[52] Motion ¶ 24 at 7 (undisputed).

[53] *Id.* 11–12.

[54] *Id.* 12–14.

[55] *Id.* 14–15.

[56] Fed. R. Evid. 702

[57] *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993).

[58] *See Id.* at 595

testimony can be tested, has been peer reviewed, has a known or potential rate of error, and has attracted acceptance in the relevant scientific community.[59]

District courts serve as the gatekeepers of expert evidence, and must therefore decide which experts may testify and present evidence before the jury.[60] Courts are given "broad latitude" in deciding "how to determine reliability" and in making the "ultimate reliability determination."[61] The Federal Rules of Evidence, however, generally favor the admissibility of expert testimony.[62] Excluding expert testimony is the exception rather than the rule,[63] and often times the appropriate means of attacking shaky but admissible evidence is through vigorous cross-examination, and the presentation of contrary evidence.[64] "[T]he Federal Rules of Evidence favor the admissibility of expert testimony, and [courts'] role as gatekeeper is not intended to serve as a replacement for the adversary system."[65]

The inquiry into whether an expert's testimony is reliable is not whether the expert has a general expertise in the relevant field, but whether the expert has sufficient specialized knowledge to assist jurors in deciding the particular issues before the court.[66]

Expert testimony is subject to Federal Rule of Evidence 403. "The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of

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[59] *See Id.*

[60] *See* Id. at 579.

[61] *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 142 (1999), (citing *General Electric Co. v. Joiner*, 522 U.S. 135 (1997)).

[62] *See Daubert*, 509 U.S. at 588.

[63] *See* Fed. R. Evid. 702 Advisory Notes.

[64] *See Daubert*, 509 U.S. at 596.

[65] *THOIP v. Walt Disney Co.*, 690 F. Supp. 2d 218, 230 (S.D.N.Y. 2010).

[66] *Kumho*, 526 U.S. at 156.

the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence."[67]

In determining whether expert testimony is admissible the first step is to determine whether the expert is qualified, and then if the expert is qualified determine whether the expert's opinion is reliable by assessing the underlying reasoning and methodology.[68] If the expert is qualified and the opinion reliable, the subject of the opinion must be relevant; i.e. the opinion must "help the trier of fact to understand the evidence or to determine a fact *in issue*."[69] "Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful."[70]

1. Dr. Heidingsfelder is not qualified to opine regarding the formation of plaque or progression of cardiomegaly.

Dr. Heidingsfelder's extensive experience as a forensic pathologist does not qualify him to offer an opinion on "the impact of stress on plaque formation, whether stress caused accelerated plaque formation in Mr. Smith, and whether the events of the surgery caused enlargement of Mr. Smith's heart."[71] Defendants' analogy is apt:

> [Mrs. Smith's] argument that Dr. Heidingsfelder's training in identifying the cause of death qualifies him to offer the opinions in question is equivalent to asserting that because he could opine that a cancerous tumor caused a particular patient's death he would also be qualified to testify as to the specific causes of that particular type of cancer, how fast the tumor's size changed, and what particular causative factors accounted for the tumor's growth–despite having no training or experience with respect to those specialized oncology matters.[72]

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[67] Fed. R. Evid. 403.

[68] *U.S. v. Nacchio*, 555 F.3d 1234, 1241(10th Cir. 2009).

[69] Fed. R. Evid. 702 (emphasis added).

[70] *Daubert*, 509 U.S. at 591.

[71] Reply at 18.

[72] *Id.* at 19.

Mrs. Smith seems to acquiesce. Her opposition never fully addresses Dr. Heidingsfelder's qualifications to discuss the progression of Mr. Smith's conditions. She merely emphasizes his years of experience as a forensic pathologist determining causes of death.[73] Defendants, however, are not seeking to exclude Dr. Heidingsfelder from testifying about Mr. Smith's cause of death. They are seeking to exclude Dr. Heidingsfelder from testifying about the *cause* of the cause of Mr. Smith's death. As stated in the background facts, Dr. Heidingsfelder's opinion is that "the cause of death is fatal ventricular arrhythmia due to clinical acute myocardial infarct due to atherosclerotic cardiovascular disease."[74] No party disputes that conclusion or that Dr. Heidingsfelder is qualified to offer that opinion. However, Defendants correctly argue that Dr. Heidingsfelder is not qualified to offer further causative analysis on the *cause* of the cause of death.

It is not enough that Dr. Heidingsfelder has general expertise in the medical field. He must have "sufficient specialized knowledge to assist the jurors in deciding the particular issues in the case."[75] He does not have sufficient specialized knowledge to opine on the formation of plaque and the progression of the cardiomegaly. He acknowledges that an interventional cardiologist or cardiac electrophysiologist with experience in treating patients for atherosclerosis or researching the rate of plaque formation would be better suited to offer opinions on those topics.[76] Dr. Heidingsfelder is neither a cardiologist nor a cardiac electrophysiologist.[77]

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[73] Opposition at 15.

[74] Background Fact ¶ 31.

[75] *Kumho*, 526 U.S. at 156.

[76] Background Facts ¶ 41.

[77] *Id.* ¶ 1.

Indeed, Dr. Heidingsfelder seems uncomfortable opining on those topics.[78] When pressed to be explicit about a connection between the surgery and Mr. Smith's subsequent developments, Dr. Heidingsfelder answered evasively: "I was very much surprised that he went from having basically open coronary arteries to less than a year later having severe blockages of his coronary arteries."[79] The answer only points out correlation. The difference between correlation and causation is significant. If he is not qualified to opine on any causal connection between the surgery and the formation of plaque and the progression of cardiomegaly then he cannot make general observations that suggest causation. That type of statement could mislead the jury.[80]

Dr. Heidingsfelder is not qualified to state, from "knowledge, skill, experience, training, or education,"[81] whether the September 2010 surgery is the cause or even a major contributing factor to the apparent increase in plaque and the progression of cardiomegaly. Therefore, Dr. Heidingsfelder's opinions on the formation of plaque or progression of cardiomegaly are excluded.

2. But even if Dr. Heidingsfelder were qualified, his opinion regarding plaque is not reliable.

Dr. Heidingsfelder's opinion regarding the relationship between psychological stress and plaque formation lacks methodological foundation. There is neither supporting, peer-reviewed publications nor general acceptance from the scientific community for the theory that psychological stress leads to plaque formation and that it specifically led to Mr. Smith's plaque formation.

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[78] *Id.* ¶ 43.

[79] *Id.*

[80] Fed. R. Evid. 403; *see* Background Facts ¶¶ 38–45.

[81] Fed. R. Evid. 702.

Dr. Heidingsfelder acknowledges that there is no publication support for his stress theory.[82] This undermines its reliability. In *Daubert*, the Court stated: "The fact of publication (or lack thereof) in a peer reviewed journal [is] a relevant, though not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised."[83]

There is no general acceptance of Dr. Heidingsfelder's stress theory in the scientific community, and there is no consensus among Mrs. Smith's experts that stress specifically caused Mr. Smith's plaque formation. This also undermines its reliability. In *Daubert*, the Court stated that "[w]idespread acceptance can be an important factor in ruling particular evidence admissible."[84] Mrs. Smith's cardiology expert, Dr. Malosky, stated that "the issue of stress and atherosclerosis and myocardial infarction is not an issue where there's a clear consensus in the cardiology community."[85] And Dr. Malosky opined that stress did not play a "major role" in Mr. Smith's atherosclerosis.[86]

Alone, lack of published support or lack of general acceptance might not justify exclusion. Indeed, the Court in *Daubert* cautions against excluding "well-grounded but innovative theories" just because they have not been published or fully embraced by the relevant scientific community.[87] That does not mean, however, that an expert can opine without some accepted methodology. As Defendants properly point out, even if Mr. Smith had relatively little plaque prior to the surgery "the amount of plaque found at autopsy can have no significance with

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[82] Background Facts ¶ 42.

[83] *Daubert*, 509 U.S. at 594.

[84] *Daubert*, 509 U.S. at 594.

[85] Dr. Malosky Depo. at 52:6–9.

[86] *Id.* at 52:23–53:5.

[87] *Daubert*, 509 U.S. at 594.

regard to showing some impact from the events of surgery without some methodological foundation on what the typical rate of formation is, which is absent from Dr. Heidingsfelder's opinions."[88] Therefore, Dr. Heidingsfelder's opinion regarding plaque formation is unreliable.

3. But even if Dr. Heidingsfelder were qualified, his opinion regarding cardiomegaly is not reliable.

Dr. Heidingsfelder's opinion that the September 2010 surgery accelerated the rate of cardiomegaly is also unreliable. Mrs. Smith first explains why data is unavailable to determine the rate of cardiomegaly: "It would be very difficult to provide the sort of data IHC wants because, for someone to get an accurate weight of a heart, the patient generally has to be dead."[89] This lack of foundation harms Mrs. Smith argument and supports Defendants' argument that Dr. Hedingsfelder's opinion is unreliable. Mrs. Smith then reverts to the now-familiar chain of corollaries: Mr. Smith had heart problems; he underwent surgery to fix them; after the surgery he did not get better; many conditions worsened; and eventually he passed away.[90] To convert those *corollaries* into *causes* requires some methodology. As Defendants correctly point out, even if "a reduction in heart function can cause progression of cardiomegaly[,] . . . the necessary foundation elements of what a typical rate of progression is and what contribution [Smith's] pre-existing conditions would make to that progression are still absent."[91] In other words, we are given no methodology. It is not possible to approve a non-existent methodology under the *Daubert* factors.[92] Therefore, Dr. Heidingsfelder's opinion and testimony about the rate of Mr. Smith's cardiomegaly is excluded.

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[88] Reply at 21.

[89] Opposition at 17.

[90] *Id.* at 18.

[91] Reply at 22.

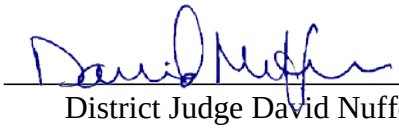
[92] *Daubert*, 509 U.S. at 593–95.

ORDER

IT IS HEREBY ORDERED that Intermountain Medical Center's Motion to Limit Testimony of John Heidingsfelder, M.D.[93] is GRANTED.

Signed July 12, 2017.

BY THE COURT



District Judge David Nuffer

[93] Docket no. 157, filed May 12, 2017.